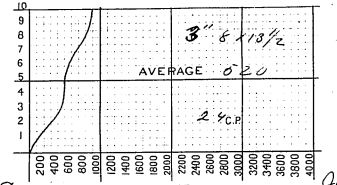
Charles Batchelor Notebook, Cat. 1302

This notebook covers the period January-August 1882. All of the entries are by John W. Howell. The book contains notes and graphs of electric lamp experiments, which are numbered 605 through 981. The spine is labeled "Expt 604-981." The cover is marked "2." There are approximately 140 unnumbered pages.

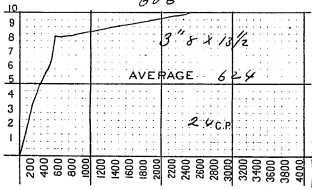
No 605 Night run Jan 16th 1882.
13 lamps 8 x 13½

605



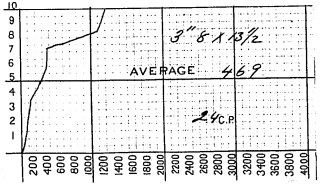
606 Day run 13. lamps 8 x 13½ Jan 17. 82.

606



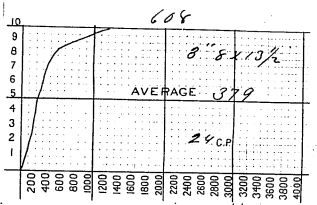
607 Night run
13 Lamps 8 x 13½
Jan 17, 1882.

607



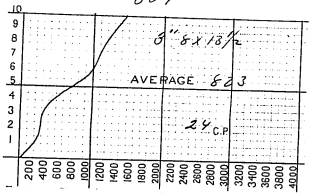
No. Jan 18, 1882
608 Day run 13 lamps 8 x 13½

608



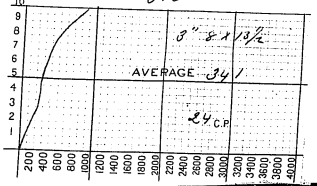
609 Jan 18, 1882.
Night run 13
Lamps 8 x 13½

609



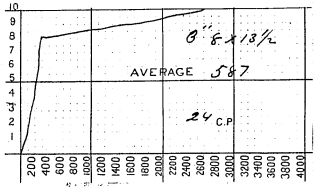
610 Jan 19, 1882.
Day run 13 lamps
8 x 13½

610



No 611 Night run B Lamps 8 X 13½ Jan 19, 1882.

611



612 Narrow B carbons plated over 4/5 of their length.

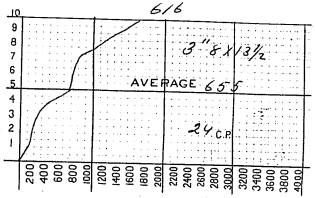
613 Narrow B carbons plated over 7/10 of their length.

614 Narrow B Carbons plated over 3/5 of their length.

615 6 Lamps plated without attaching wires through inside parts.

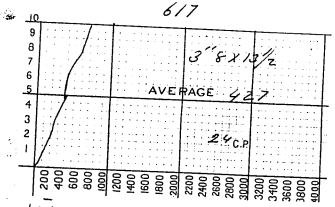
No 616 Day run B lamps 8 X 13½ Jan 20, 1882.

616



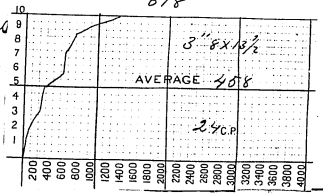
617 Night run B Lamps 8 X 13½ Jan 20, 1882.

617

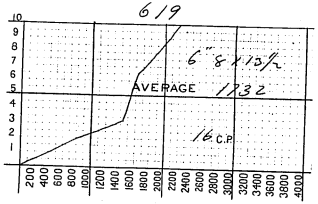


618 Jan 20, 1882. Day run B lamps 8 X 13½

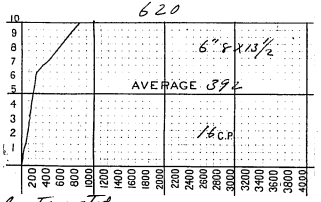
618



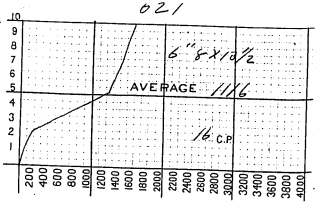
No 619 Spiral treated with oil of petroleum



620 Spirals treated with oil of spruce



621 Spirals treated with oil of Jasmin.

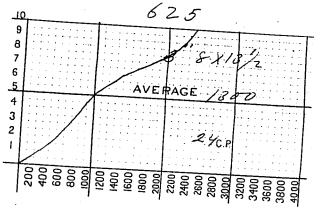


No 622 Spiral - Jakel carbons

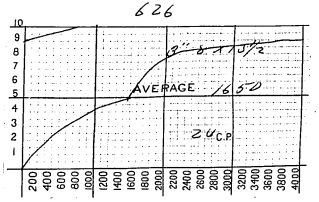
623 Spirals - Wood carbons burnt 5½ hours

624 Spirals - Wood carbons

625 Jan 23, 1882.
Day run B. Lamps 8 X 13½



626 Jan 23, 1882
Night run
B. Lamps 8 X 13½

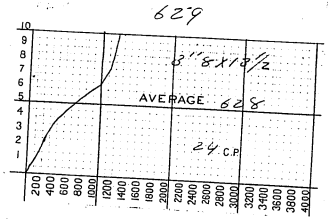


No. 627 15 lamps with a carbons made the same as order 596 but with old style of platinum clamps.

No 628 15 Lamps like order 626 with nickel plated clamps

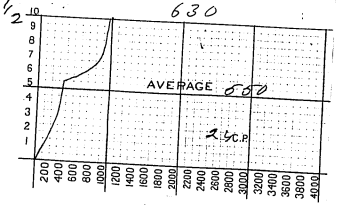
629 Day run B. Lamps Jan 24, 1882 8 X 1 3/2

629



630 Night run B Lamps 8 X 1 3/2 Jan 24, 1882

630



No

631 Day run B. lamps Jan 25, 1882 8 X 13/2 24 candles

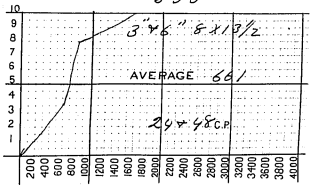
632 Night run A+B lamps 8 X 1 3/2 48 + 24 candles.

633 1/2 dog. A Lamps with P_2O_5 in bottle at end of stem while on the heater thus.

634 Special Lamps for Mr. A. E. Jan 14th 1882

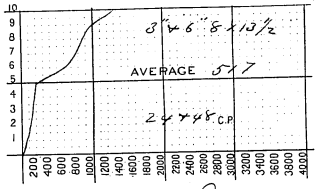
635 Day run a+B. lamps Jan 30, 1882. 8 X 13/2

635



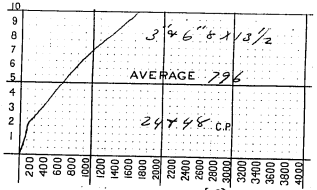
No 636 Day run A+B Lamps Jan 31, 1882.

636



637 Night run a+B Lamps Jan 31, 1882.

637

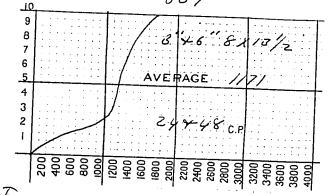


638 Feb. 2, 1882

25 Lamps with spotted carbons.

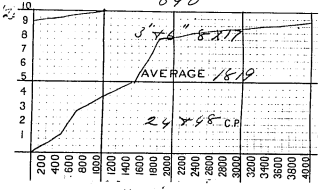
No 639 Day run a+B Lamps. Feb 1, 1882

639



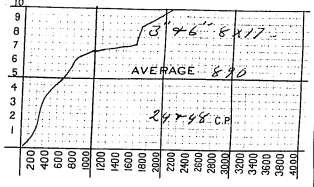
640 Feby 1, 1882. Night run a+B Lamps

640



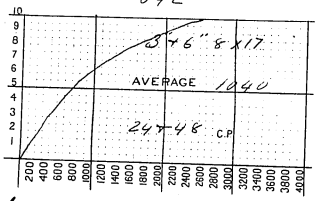
641 Feb. 2, 1882. Day run a+B Lamps.

641



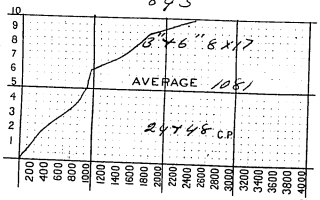
No 642 Feb. 2, 1882.
Night run A+B Lamps.

642



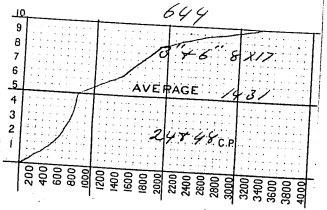
No. 643 Feb. 3, 1882.
Day run A+B Lamps

643



No 644 Night run A+B Lamps
Feb 3, 1882.

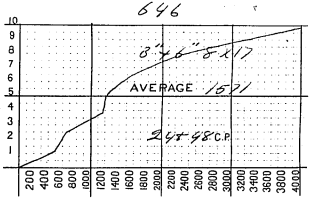
644



No 645 25 High resistant Carbons. Feb 4, 1882

No 646 Feb 4, 1882
Day run A+B. Lamps

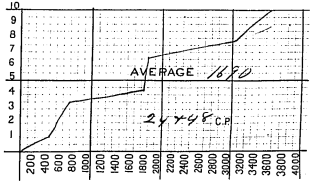
646



No 647 10 A. Carbons run of Feb 6, 1882.

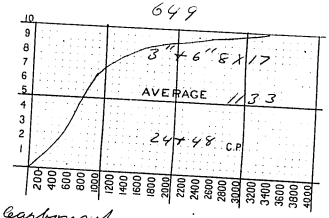
No 648 Feb 6, 1882
Day run A+B Lamps.

648



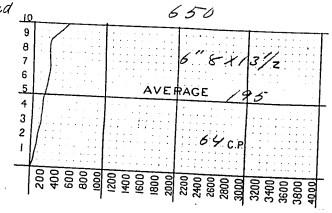
No 649. Feb 6, 1882.
Night run A+B Lamps,

649



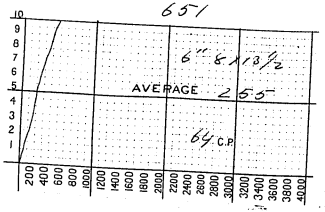
650 Carbons of Feb 4. - 5" marked 5-6/00 A.

650



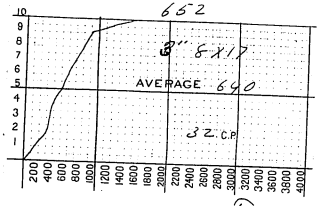
651 Carbons of Feb 4 + 5th marked 3-4/00 A

651



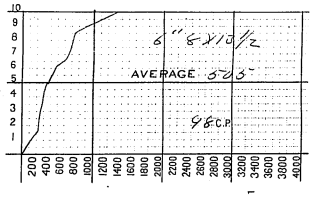
No 652 Carbons of - - - - Feb. 4 - 5" marked 11/8 X V 18.

652



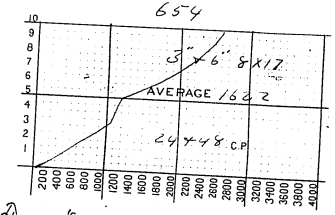
653 Feb 9, 1882.
Carbons brought from high to low resistance,

653



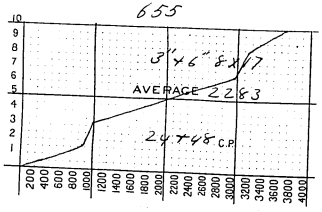
No 654 Day run A+B Lamps Feb 7, 1882.

654



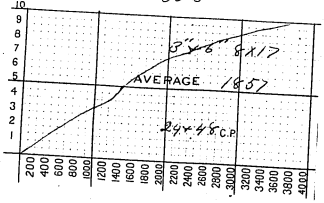
655 Feb. 7, '82.
Night run A+B Lamps.

655



656 Feb 8, '82.
Day run A+B. Lamps.

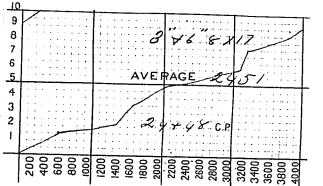
656



No 657 Night run A+B Lamps

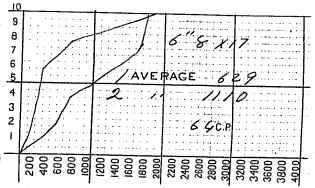
Feb. 8, 1882.

657

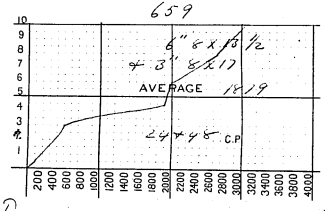


658 Feb. 11, 1882.
12 Lamps with two A. Carbons at right angles arrange wires so that either can be burned.

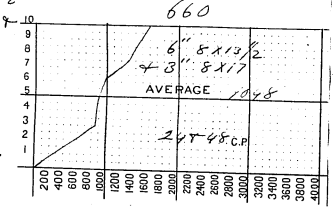
658



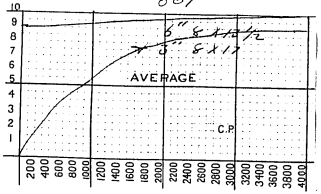
No 659 Day run a & B Lamps. Feb 9, 1882.



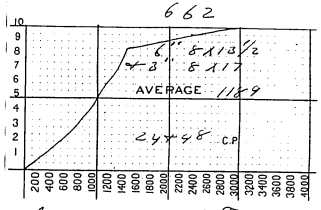
660 Feb 9. 82 Night run A & B Lampe



No 661 Feb 10, 82 Day run A & B Lampes.



No 662 Night run A & B Lampes. Feb 10, 1882.



663 B carbons run of Feb. 3, 1882, brought from high to low resistance.

664 A Lamps marked 5-9 / X X Feb. 6 & 7, 1882.

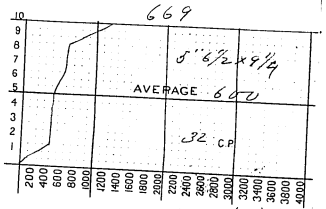
665 a Lamps marked 6U / X Feb. 6 & 7. 1882.

666 B " " 115 / Reg 6 " 7 & 8, 1882.

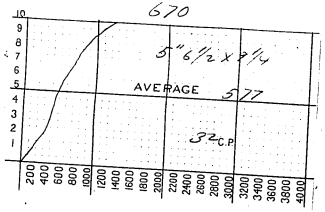
667 B " " 116 / Reg 0 " 7 & 8. 1882.

668 B " " 119 / Bl. P. 000 " 7 & 8. 1882.

No 669 A. Lamps marked 6 6/00 Feb. 7 & 8/1882.

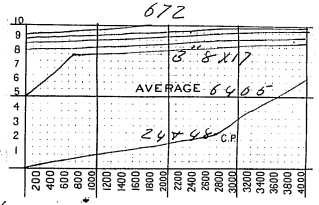


670 A. Lamps marked 5-6/00 Feb. 7 & 8. 1882.

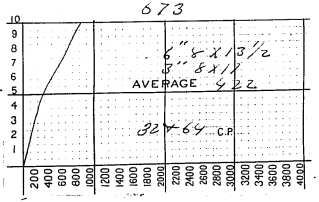


671 B. Lamps marked H D St. P. 000 Feb. 7 & 8 1882.

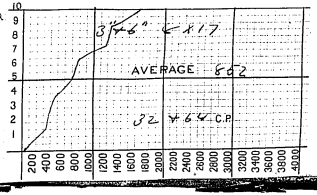
No 672 Daymin A & B Lamps. Feb. 11, 1882.



673 Daymin A & B. Lamps Feb. 13, 1882.

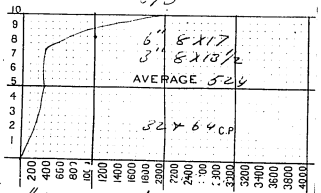


674 Nightmin A & B. Lamps Feb. 13. 1882.



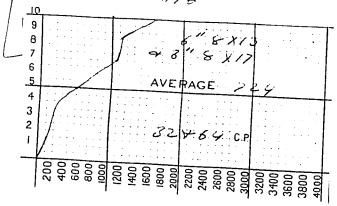
No 675 Day run A & B. Lamps Feb. 14, 1882.

675



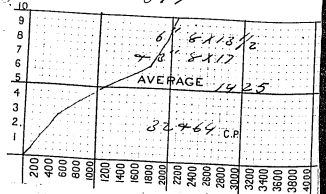
676 Night run A. & B. Lamps Feb. 14, 82

676



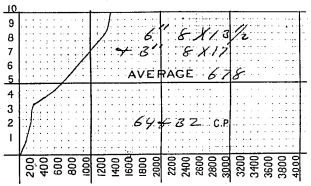
677 Day run A. & B. Lamps, Feb. 15, 1882.

677



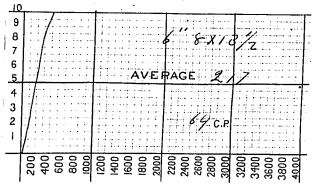
No 678 Night run A & B. Lamps Feb. 15, 82.

678

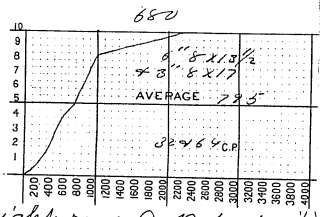


679 Three days working of Lamps. T. Anderson worked in the morning way up to A. current & then put current suddenly & tube allowed to become solid and then worked off with dispatch.

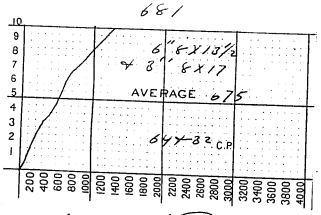
679



No 680 Day run A. & B. Lamps Feb. 16, 1882



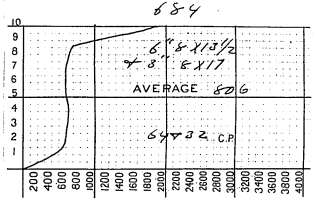
681 Night run A & B Lamps Feb. 16, 1882.



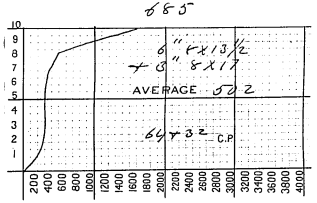
682 B. carbons of Feb 14 & 15 marked 11/7 B

683 B carbons of Feb 14 & 15 marked 13/11 B.

No 684 Day run A. & B. Lamps Feb. 17, 1882.



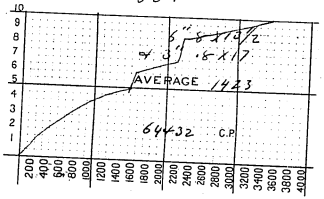
685 Night run A & B Lamps Feb. 11, 1882



686 Fibres treated by Dr Haid. See 698 Feb 24th 1882.

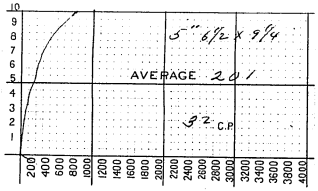
No 687. Day run A + B. Lamps Feb 18, 1882.

687



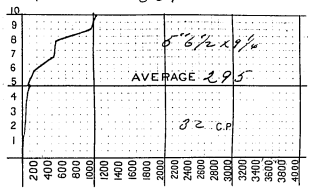
688 8 Candle A. Lamps 6 x 9 1/4 run of Feb 18, 1882.

688



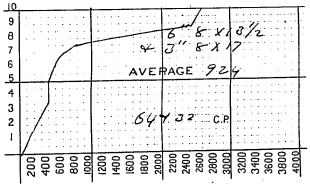
No 689. Day run A + B. Lamps Feb 20, 1882

689



690 Night run A + B Lamps Feb. 20, 1882.

690



691 10 B carbons averaging 250 Ohms

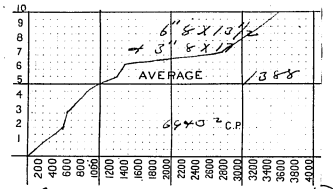
692 10 B " " 115 " "

693 B " of Feb 15-16 marked-

118
D

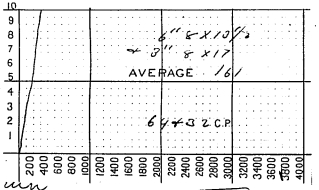
No 694 Day run A & B. Lamps Feb 31. 82.

694



695- Night run A & B Lamps 2 Feb 21, 1882.

695

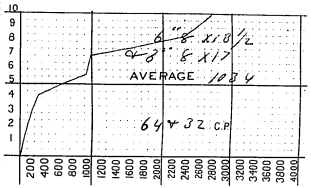


696 Day run A & B lamps Feb. 22, 1882.

Sheet

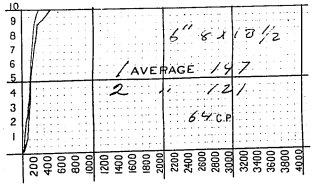
No 697 Night run A. & B. Lamps Feb. 22, 1882.

697



698 Carbons treated by Dr Haid Feb 24, 1882.

698

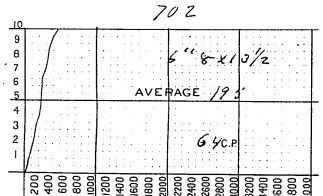


No 699 B. Carbons run of Feb 16 & 17th 1882
marked 97/30.

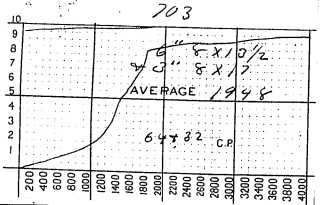
700 B Carbons run of Feb 16 & 17. 1882
marked 112/20

701 B Carbons run of Feb. 17 & 18, 1882.
marked 96/40

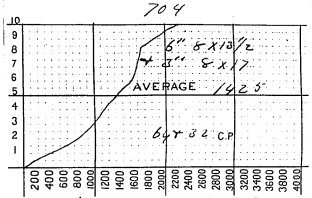
702 Lamps worked without putting in the last bea.



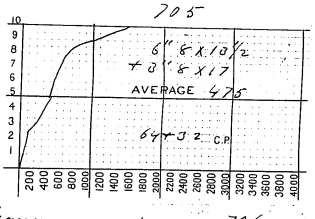
703 Day run A & B lamps Feb 23, '82.



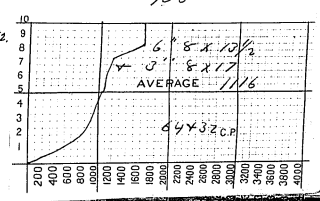
No 704 Night run A & B Lamps Feb 23, 1882.



705 Day run A & B Lamps Feb 24. 1882.

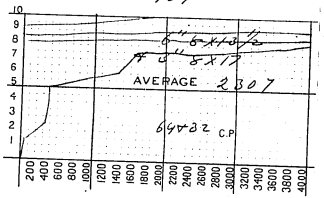


706 Night run A & B Lamps Feb 24, 1882.



No. 707 Day run A+B Lamps Feb 25, 1882.

707



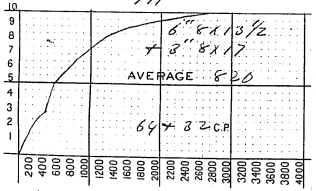
708 A. Carbons 4 in form Feb 28.

709 B " run of Feb 21, 1882 marked 91/3-0

710 B. Carbons run of Feb 21, 1882. marked 96/6-0

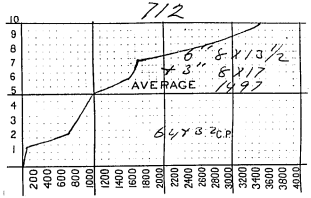
711 Day run A+B Lamps Feb 24, 1882.

711



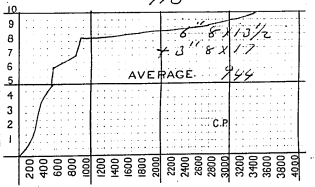
No. 712 Night run A+B Lamps Feb. 27, 1882.

712



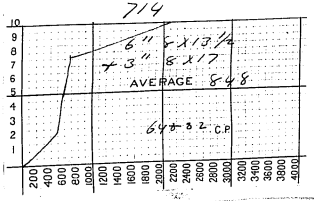
713 Day run A+B Lamps Feb 28, 1882.

713



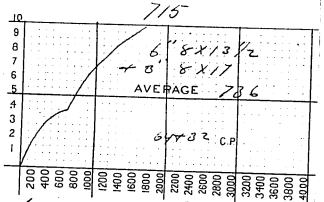
714 Night run A+B Lamps Feb 28, 1882.

714



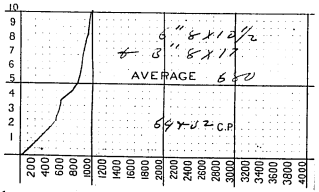
No. 715- Day run A & B lamps March 1, 1882.

715



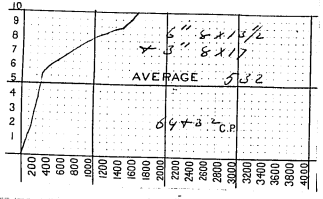
716 night run A & B lamp Mch 1, 82.

716



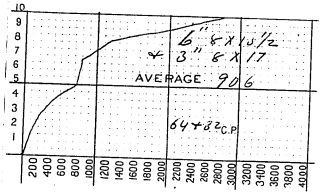
717 Day run A & B lamps March 2nd 1882.

717



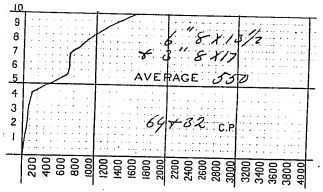
No. 718 Night run A & B Lamps March 2, 1882.

718



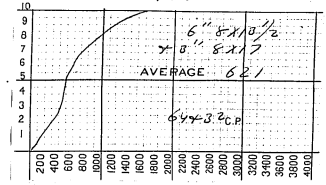
719 Day run A & B Lamps March 3, 1882.

719

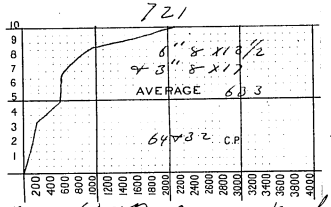


720 night run A. & B. Lamps March 3, 1882.

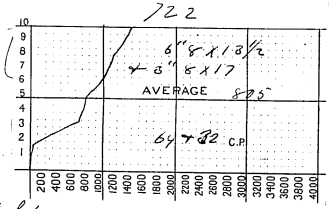
720



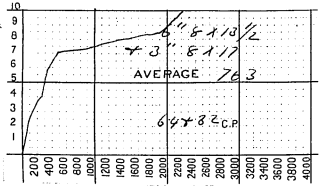
No 721 Day run A & B Lamps Mch 4, 1882.



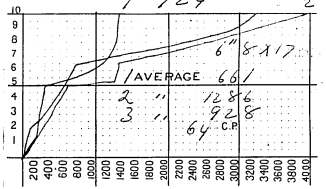
722 Day run A & B Lamps Mch 6, 1882.



71 723 Nightrun
A & B Lamps
7 March 6, 1882.



No 724 A & B carbons Lawsons run of the 6th inst March to be put up and tested Carbons 8 x 17



725 B. carbons of Feby 23, 1882 marked 74/6

726 B carbons of Feb. 23, 1882. marked 75/7

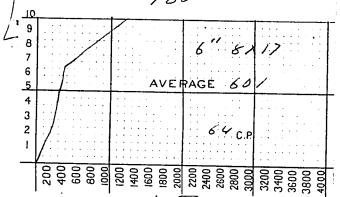
727 A carbons of Feb 22, 1882. marked H. R.

728 A carbons of Feb 24. 1882. marked 28/90

729 B Carbons of Feb. 25, 1882. marked 128/100

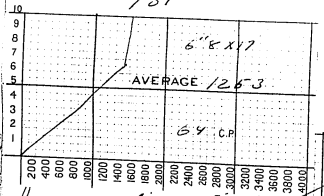
No 730 A carbons of Feb 27, 1882 marked 5-7/115

730

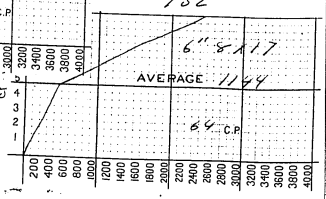


731 A Carbon of Feb 7, 1883 marked 4-7/0

731



732



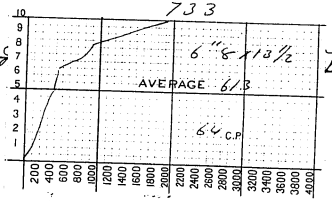
marked 7-7/120

732 A Carbons of Feb 28. 1882 marked 7-7/120

No 733 16 Lamps. A carbons Worked by monroe Danbury March 7, 1882. Broought up gradually and allowing Half tuths to become solid at ebay move and on finishing giving full current until a change of color is noticed in bulb & then for final sealing.

733

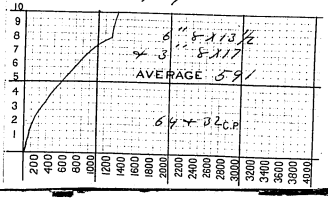
~~No 734~~



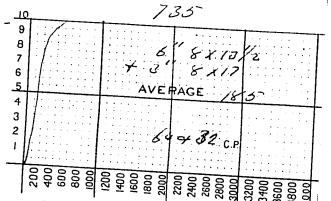
~~March 7, 1882~~

No 734 Day rim A & B Lamps March 7. 1882

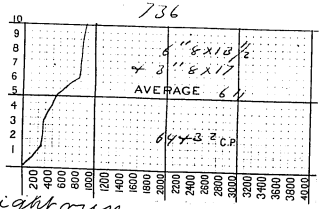
734



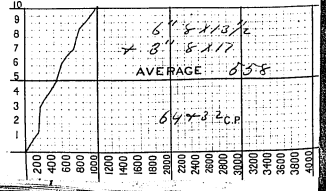
No 735 Night run A & B Lamps Mch 7, 1882.



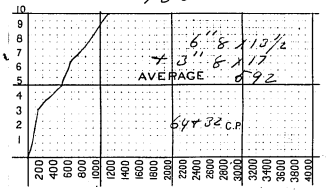
No 736 Day run A & B lamps March 8, 1882



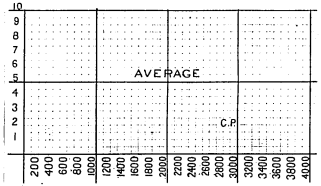
737 Night run
A & B Lamps
March 8, 1882



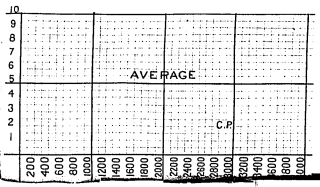
No 735 Night run A & B Lamps March 8, 1882.



736 Day run A. & B Lamps March 8, 1882

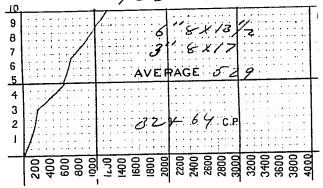


737 Night run ~~A & B Lamps March 8, 1882.~~
A & B Lamps
March 8, 1882



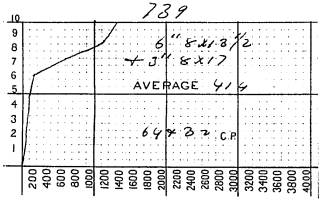
No 738 Day run A+B Lamps March 9, 1882.

738



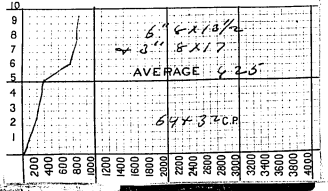
739 Night run A+B Lamps Mch 9, 82.

739



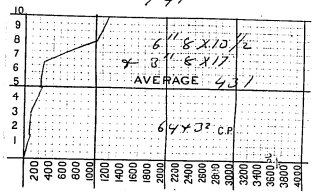
740 Day run ~~A+B Carbl~~ A+B Lamps March 10, 1882.

740



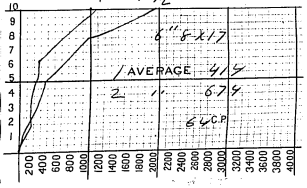
No 741 Night run A+B Lamps March 10, 82

741

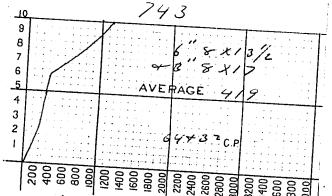


742 - Lamps exhausted on Large pumps worked in the ordinary way, worked off in 1 hr. 15 m. manipulated by Prof Anderson. Pumps numbered 10.11.12.13.14.15. Find pump's No 14 to give best results

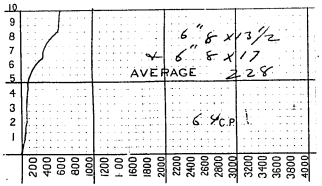
742



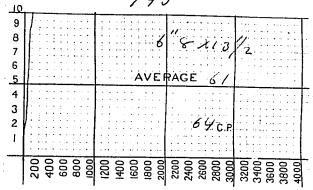
No. 743 Day run A & B Lamp Mar 11, 1882.



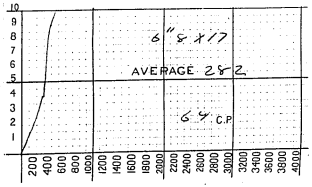
744 Lamps left burning 20 minutes on B current - after final inspection.



No 745 - A carbons run of March 1, 1882. marked 5-7 / 130

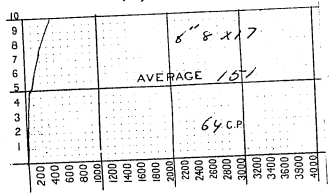


No. 746 A. carbons run of March 2, 1882. marked 44 / 60



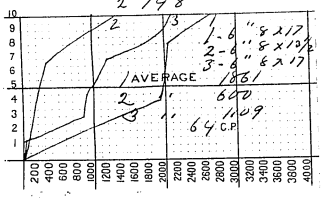
No 747 A carbons run of March 4, 1882. marked 35/0

747



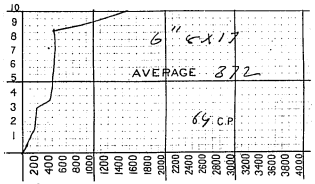
748 A. carbons run of March 4, 1882 marked 32/190

2 748



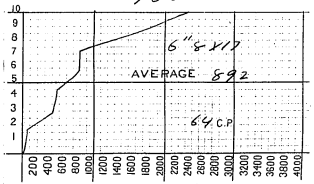
No. 749 A carbons run of March 7, 1882. marked 31/170

749

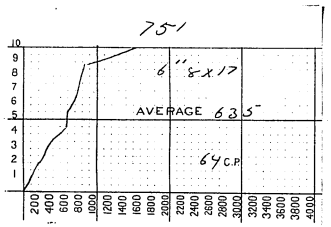


750 A. Carbons run of March 4, 1882 marked 37/180

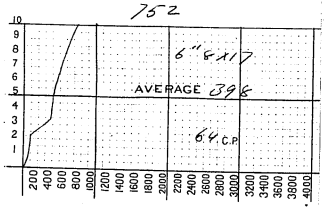
750



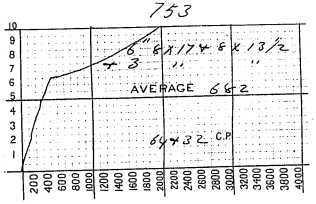
No
751 A. carbons run of Mch 6, 1882.
marked 16/150



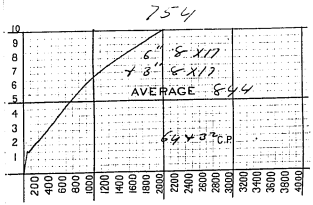
752 A. carbons run of March 7, 1882.
marked 49/0



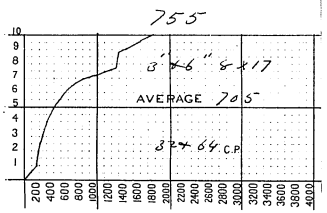
No
753 Day run A & B lamps March 13, 1882.



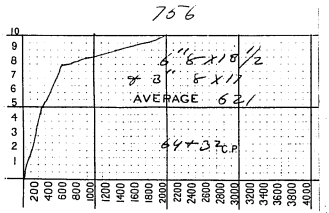
754 Night run A + B lamps March 13, 1882.



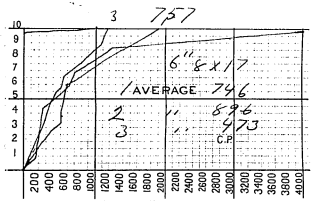
No 755 Day run A & B. Lamps March 14, 82



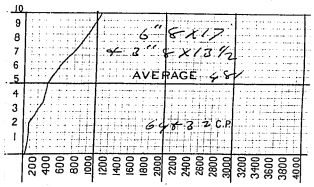
No 756 Night run. A & B Lamps March 15, 1882.



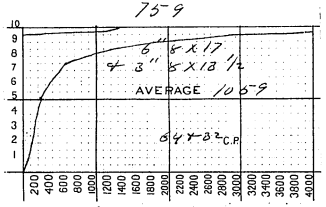
No 757 A Lamps worked on double pumps worked up to full current & allowed to burn at highest current for 15 minutes and sealed off.



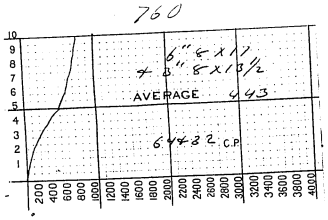
758 Day run A & B. Lamps March 15, 1882.



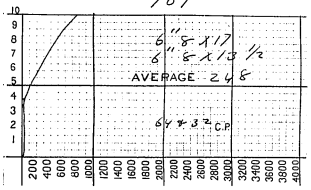
No 75-9 Night run A & B. Lamps March 15, 82.



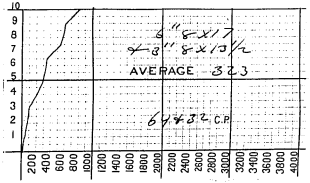
No 760 Day run A & B. Lamps March 16, 82.



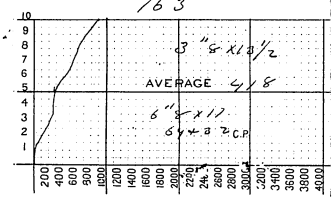
No 761 Night run A & B lamps March 16, 1882.



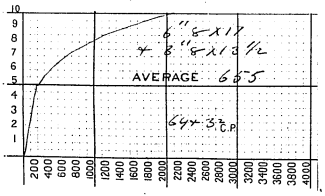
762 Day run A & B lamps March 17, 82.



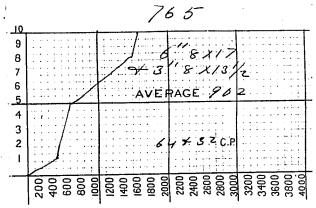
No 763 Night run A & B Lamps March 17, 1882.



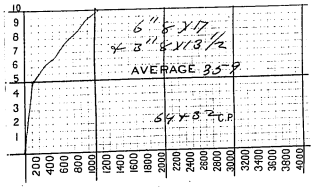
764 Day run A & B Lamps Mch 18, 1882.



No 765 Night run A & B Lamps Mch 20, 1882.



766 Day run A & B Lamps March 20, 82.



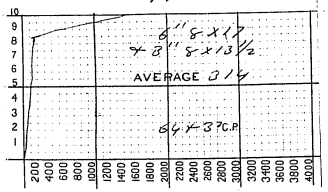
No 767 A. carbons run of March 8, 1882. marked 17/150

768 Ci carbons - run of March 18, 1882 marked 49/0

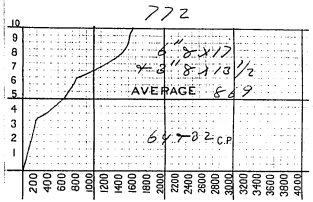
769 B. carbons - run of March 20, 1882. marked 30/Spec.

770 A. carbons - run of March 20, 1882 marked 24/0

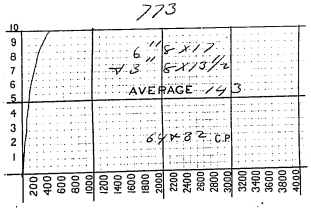
771 Day run A & B lamps Mch 21st 1882.



No 772 Night run A & B Lamps Mch 21, 1882.

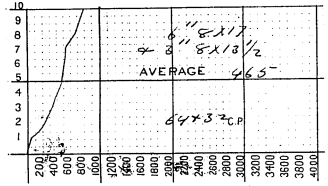


773 Day run A & B Lamps March 22, 1882.



No 774 night run A&B Lamps March 22, 1882.

774



775 1/4" fibres no 3 Stock

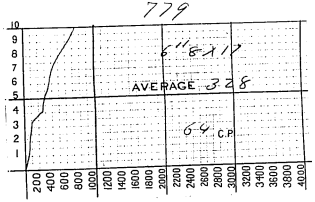
776 3/8" " 10x17 - D stock

777 15/16" " 10x17 D "

778 1 1/4" " 10x17 D "

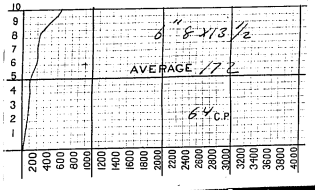
No 779 Lamps worked by Sawelby on #13 pump no current used on B except in switching, in A, use current low in A and run off regular and sealed with moderate high current.

779

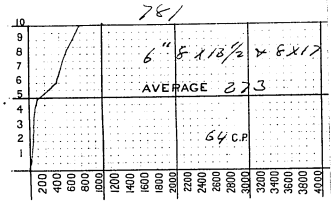


780 Lamps worked by Wm Voorhees on Pumps without P.H.L. those marked B. taken off with blue in bulb those marked T. with full current and no blue those marked 1/2 T. sealed off no blue with 3 to cut out.

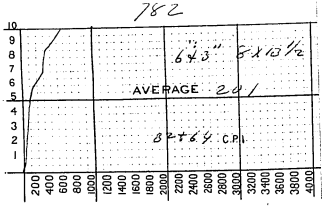
780



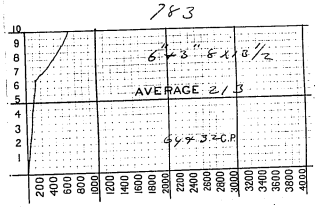
No 781 Lamps exhausted from Dumps no P. H. D. in the usual manner with current in and changing with solid tube.



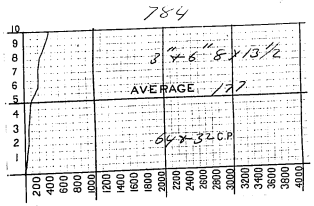
782 Day run A & B Lamps March 24, 1882.



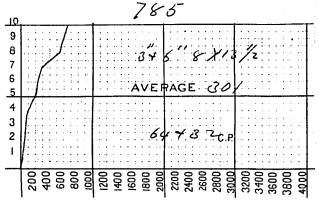
No 783 Night run A & B. Lamps March 24, 1882.



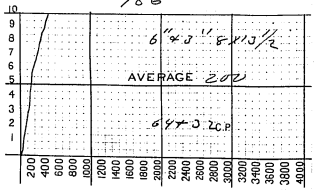
784 Day run A & B. Lamps March 25, 1882.



No 785 night run A & B Lamps March 27, 1882

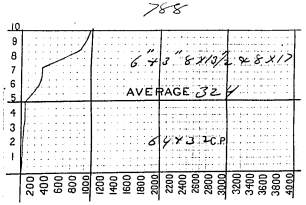


786 Day run A & B. Lamps March 27, 1882



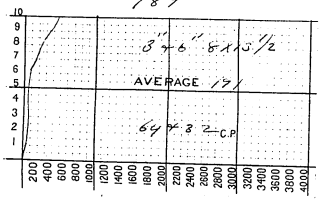
No 787 An experiment in A. Lamps 8 X 13 1/2 to ascertain the cause of carbon curling The manipulating will be as follows as soon as vacuum is obtained in Bulb. The current put on at once with full Lamp resistance Box cut out & allowed to remain as until a solid tube is obtained & following the ordinary way & sealed off high current.

788 Day run A & B Lamps March 28, 82.



No 789 Night run A & B. Lamps March 28 82

789



790 Three A Lamps 8 x 27 Immersed in Fu & Exhausted & sealed off high current one A Lamp 8 X 13 1/2

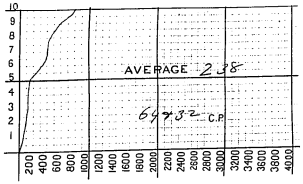
These Lamps were set up at 12 8 candles on the last day of march being the last day that we ran at Menlo Park, - All three aged & averaged about 15 minutes.

No 791 Lamps with carbons soldered in clamps with soft solder.

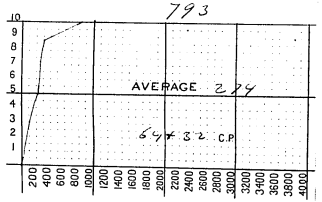
[sheet]

792 Day run A & B. Lamps March 29, 1882.

792

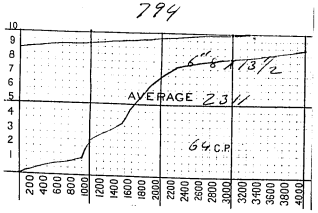


220
793 Night run A. & B Lamps March 29/82.
This was the last order of lamps set up at Menlo Park.



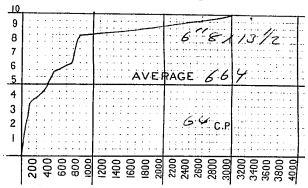
Harrison N.J.
June 9, 1882

794 Lamps sealed off with a bulb attached containing P_2O_5 which was left attached to the lamp 2 months when it was sealed off.

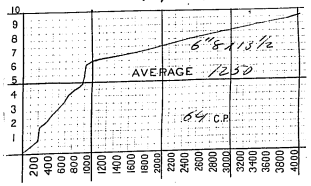


220
795 Lamps sealed off with a bulb attached containing P_2O_5 + Na Cl. which was left attached to lamp two months when it was sealed off. June 9, 1882.

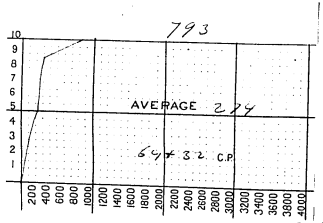
796. Day run A Lamps June 13, 1882.



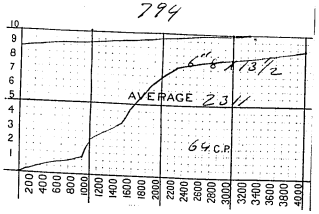
797 Night run A Lamps June 13, 18



No
793 Night run A. & B Lamps March 29/82.
This was the last order of lamps set up at Menlo Park.

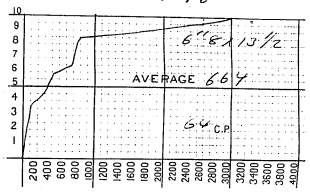


Harrison N.J.
794 Lamps sealed off June 9, 1882
containing P_2O_5 which was left attached to the lamp 2 months when it was sealed off.

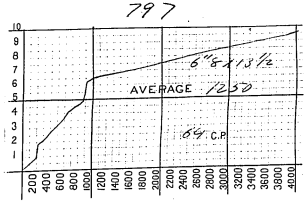


No
795 Lamps sealed off with a bulb attached containing P_2O_5 + Na Cl. which was left attached to lamp two months when it was sealed off. June 9, 1882.

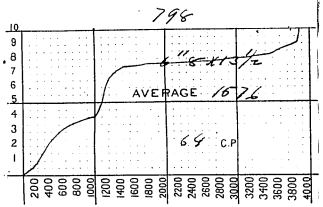
796 Day run A Lamps June 13, 1882.



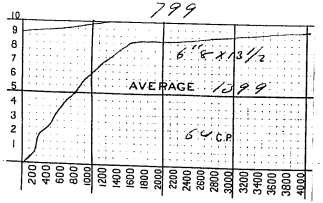
797 Night run A Lamps June 13, 1882.



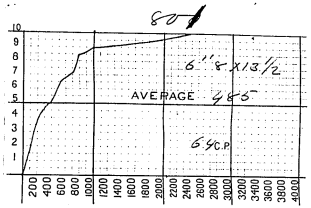
No 798 Day run a Lamps June 14, 1882.



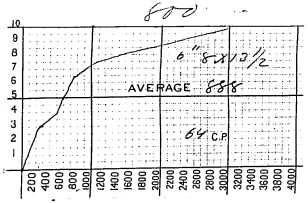
No 799 Night run a Lamps June 14, 1882.



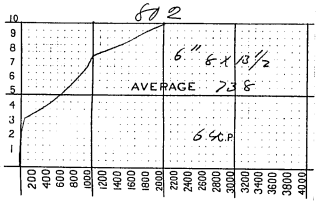
No 800 Day run a Lamps June 15, 1882.



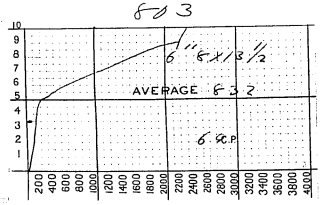
801 Night run a Lamps June 15, 1882.



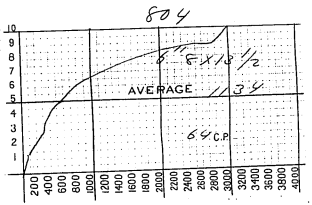
802 Day run A Lamps June 16, 1882.



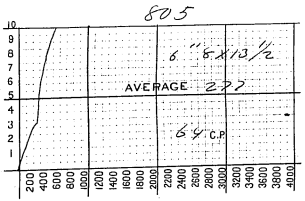
803 Night run A Lamps June 16, 82.



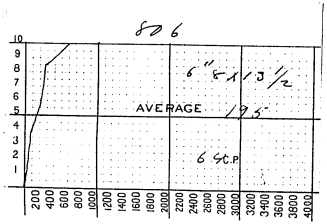
804 Day run A Lamps June 17, 1882.



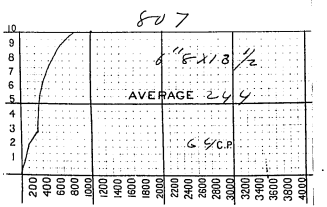
805 Day run A Lamps June 19, 1882.



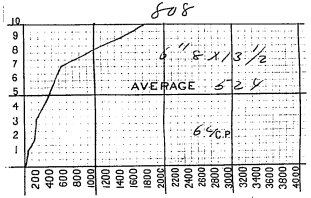
No 806 Night run A Lampa June 19, 1882.



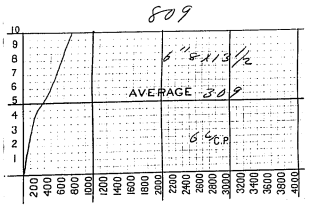
807 Day run A Lampa June 20, 1882.



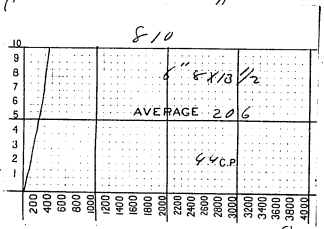
No 808 Night run A Lampa June 20, 1882



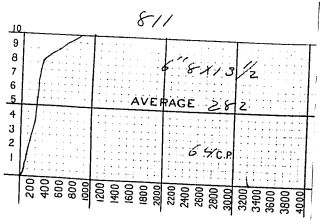
809 Fibres carbonized two in a form



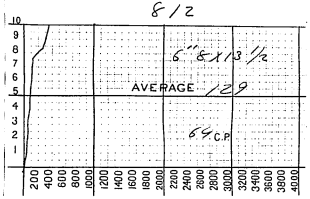
No 810 Daytime a Lamps June 21, 1882.



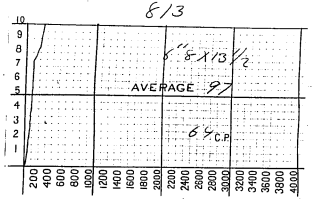
811 Night run a Lamps June 21. 1882.



No 812 Daytime a Lamps June 22. 1882.

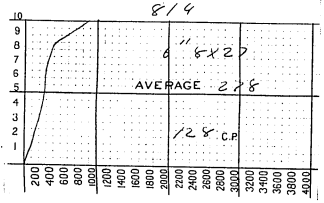


813 Night run a. Lamps June 22. 1882.



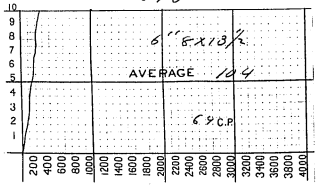
No 814 8 X 27 A Lamps June 22, 1882.

814



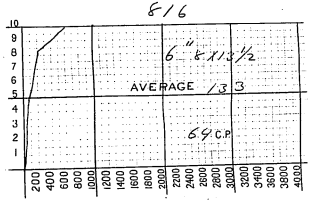
815 Day run a Lamps June 23, 1882.

815



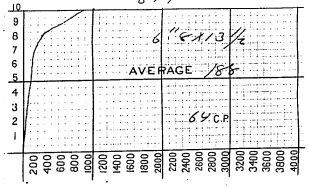
No 816 Night run a Lamps June 25, 1882.

816

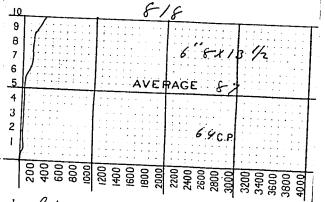


817 Day run a Lamps June 24, 1882.

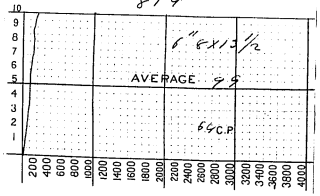
817



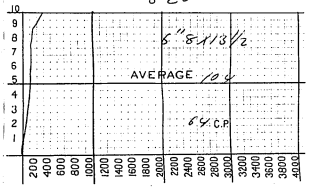
No 818 Day run A Lamps June 26, 1882.



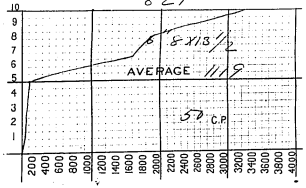
819 Night run A Lamps June 26, 1882.



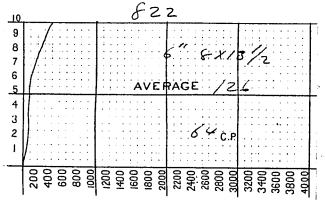
No 820 Lamps dried with No Cl2 June 26, 82



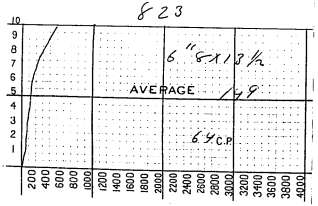
821



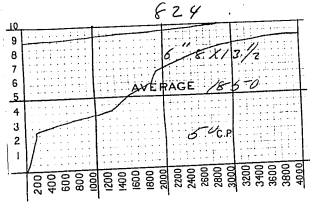
No 822 Day run A. Lamps June 27, 1882.



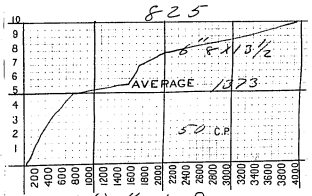
823 Night run A Lamps June 27, 1882.



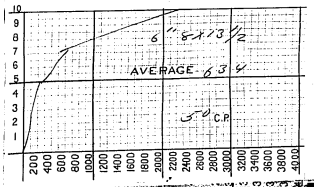
No 824



825

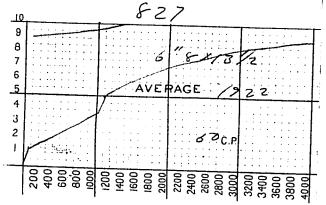


826 Day run A Lamps June 28, 1882



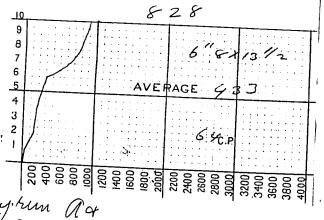
No 827 Night run A lamps June 28, 1882.

827



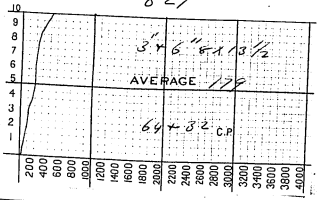
828

828



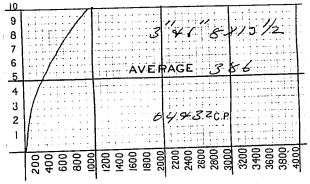
829 Day run A & B lamps June 29 1882.

829



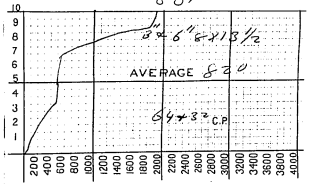
No 830 Night run A & B lamps June 29, 1882.

830



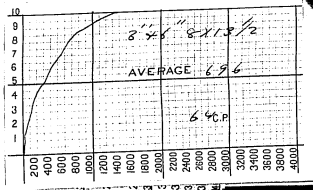
831 Day run A & B. Lamps June 31, 1882.

831

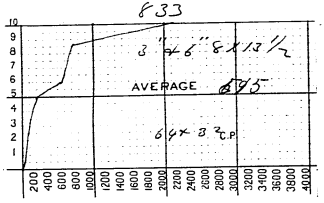


832 Night run A & B lamps June 30 1882.

832



833 No Day run A&B lamps July 1, 1882.

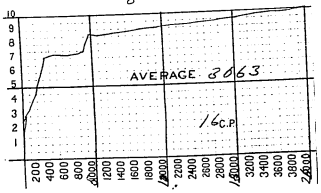


834 –

835 –

836 –

837 –



838 –

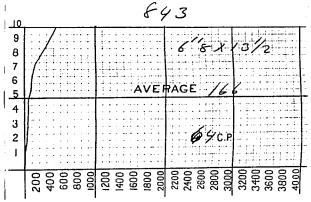
839 No –

840 –

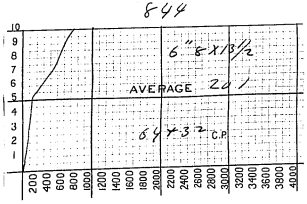
841 –

842 –

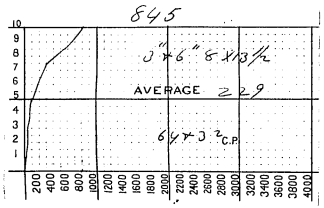
843 – Carbons treated with glycerin



844 – Day run A&B lamps July 3, 1

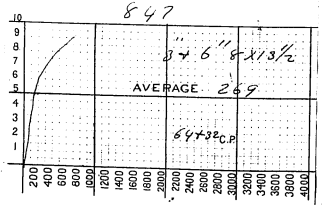


No. 845 - Night run A + B lamps July 5, 1882.

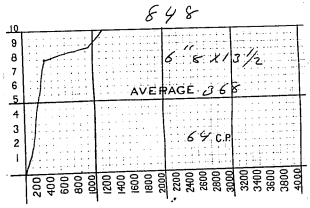


846 —

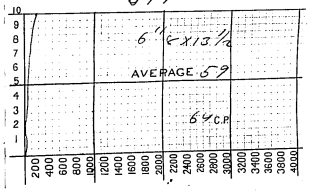
847 Day run A + B lamps July 5, 1882.



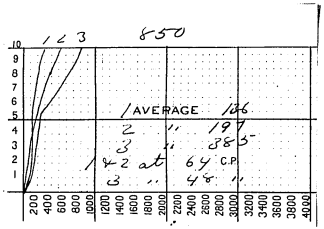
No. 848 - Night run A + B lamps July 5, 1882.



849 —

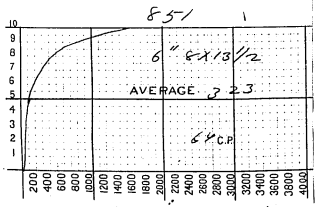


No 850 -

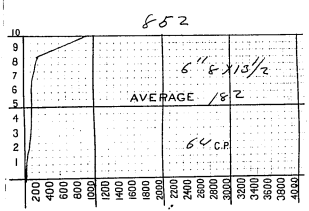


Make 25 regular 6" 8 X 13½ lamps with Ca Cl2 in them. Set to one side for 5 days or more. Test half with Ca Cl2 on & half with Ca Cl2 sealed off. July 8, 1882.

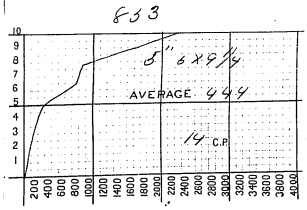
851 - Run 15 lamps from pumps containing new Ca Cl2. new style pumps July 8, 1882.



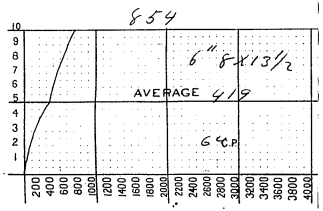
No 852. Run 15 Lamps from pumps containing old Ca Cl2 with bubbles in it new style of pumps July 8, 1882



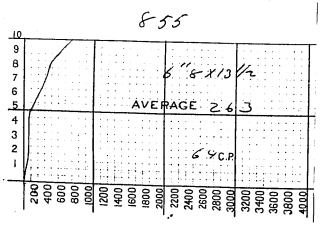
853 10 Lamps 6 x 9½ carbons.



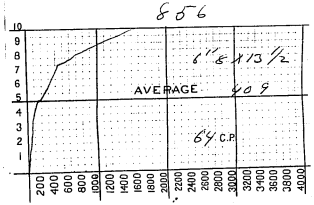
No 854 Day run a Lamps July 6, 1882.



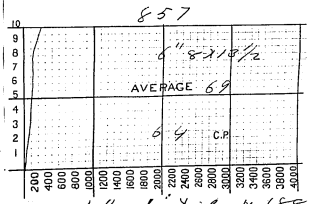
855 Night run a Lamps July 6, 1882.



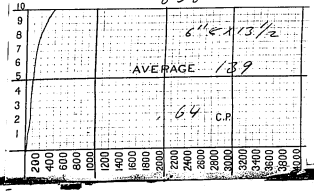
856



857 Day run a Lamps July 7, 1882



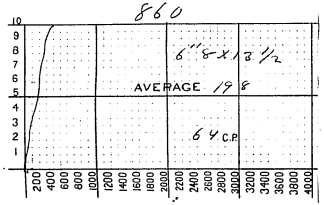
858 Night run A Lamps July 7, 1882



859 —

860 —

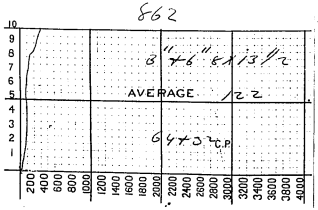
860



861 —

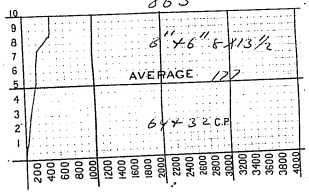
862 Day run a & B lamps July 8, 1882.

862



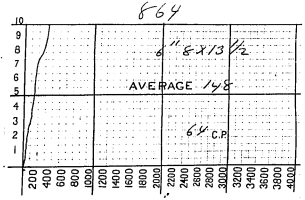
863 Night run a & B lamps July 8, 1882.

863

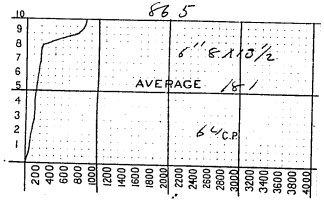


864 Day run a lamps July 10, 1882.

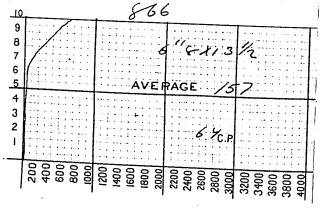
864



No 865 - Night run A Lamps July 10, 1882

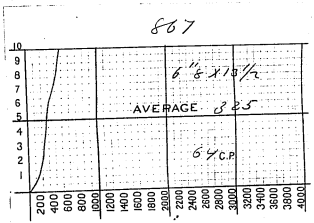


866 -



Carbons laid in alum water for 24 hours
July 11, 1882.

No 867 -



Lamps run off without heating on heater
July 11, 1882.

868 -

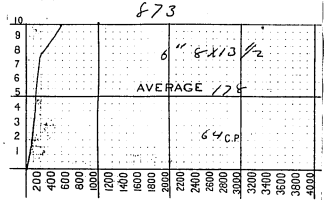
869 -

871 -

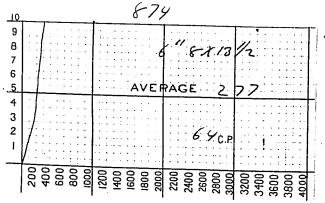
871 -

872 -

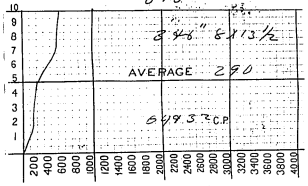
No 873 1st shift a Lamps July 11, 1882.



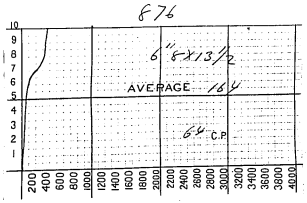
874 2nd shift a Lamps July 11, 1882.



No 875 3rd Shift July 11, 1882 9.413 Lamps

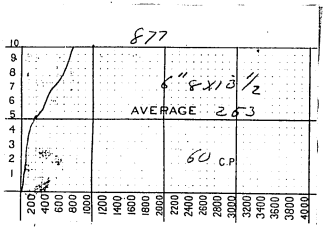


876 –



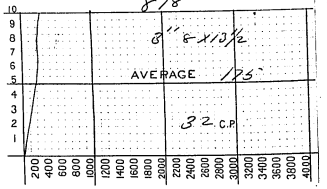
Fibres soaked in alum water July 12, 1882

No 877 -

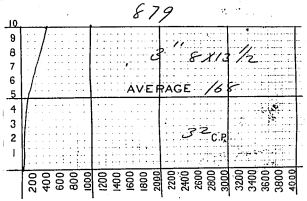


Lamps made from carbons without shanks to test quality of carbon.
July 12, 1882.

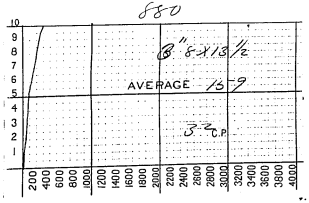
878 - 1st Shift B Lamps July 12, 1882.



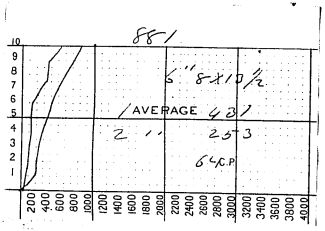
No 879 - 2nd Shift B Lamps July 12, 1882.



880 3rd Shift B Lamps July 12, 1882.

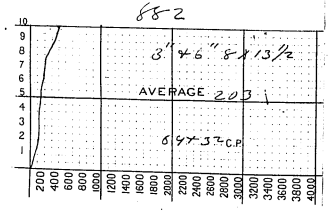


No 881 —

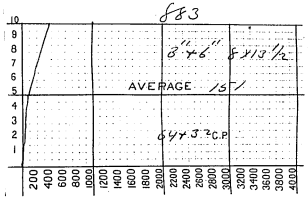


Lamps run through without drying on pumps July 12, 1882.

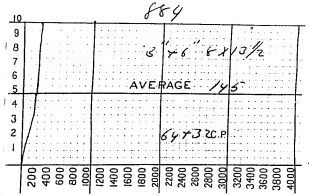
882 1st Shift A & B Lamps July 13, 1882.



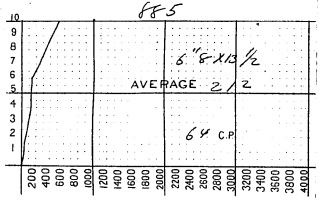
No 883 2nd Shift A & B Lamps July 13, 1882.



884 - 3rd Shift A & B Lamps July 13, 1882

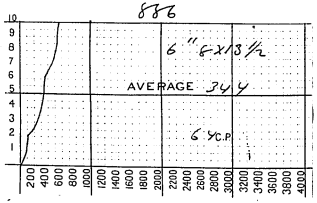


No 885 – —



Lamps run off without blue on clamps & dense blue in bulb.

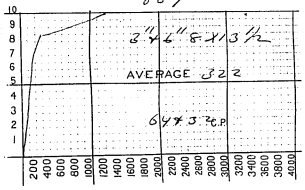
886 –



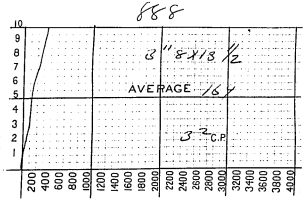
July 12, 1882

Lamps run off without blue on clamps and light blue in bulbs.

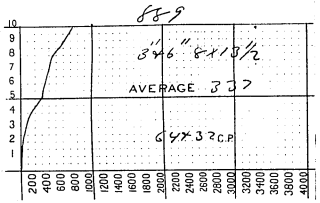
No 887 – 1st Shift A & B Lamps July 14, 1882.



888 – 2nd Shift B. Lamps July 14, 1882.

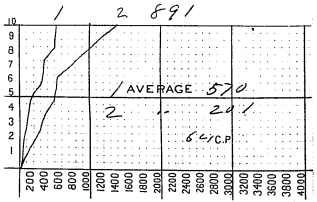


No 889 - 3rd shifts A & B lamps July 14, 1882.



890 - Fibres ran through in old forms July 12, 1882.

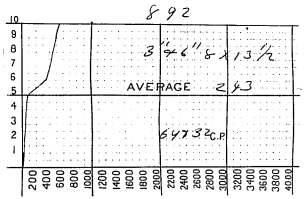
891 -



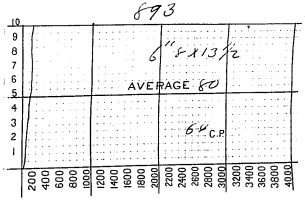
Fibres ran through forms with selected side weights

July 12, 1882.

No 892 1st shifts A & B Lamps July 15, 1882.



893 -



July 15, 1882.

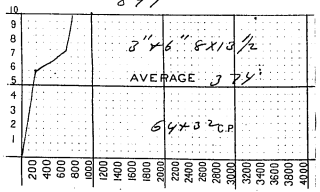
Lamps run off with rubber stopper on stem of Lamp, not using ~~all~~ entirely on stem of Lamp, or rubber tube used as stopper. Use mercury as a positive seal.

No 894 Twenty five lamps with $Ca\,Cl_2$ on Tube and bulb to be exhausted & no current used & $ca\,Cl_2$ left on lamps 24 hours.

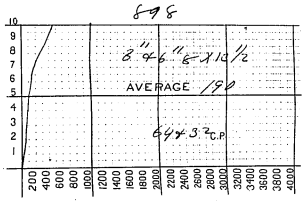
895 Fifteen lamps with $Ca\,Cl_2$ on tube & bulb to be exhausted & only low current used in both resistance & sealed off with $Ca\,Cl_2$ left on 24 hours.

896 - Same as 895 - worked on the 100 Volt line.

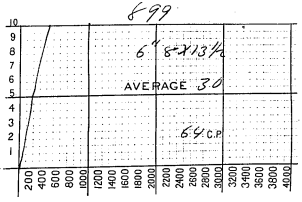
897 1st Shift A+B. July 17, 1882.



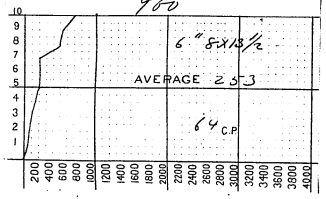
No 898 2nd Shift A+B. July 17, 1882.



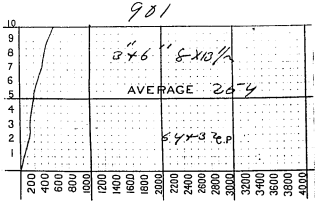
899 3rd Shift A Lamps July 17, 1882.



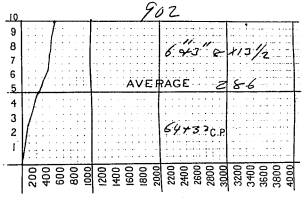
No 900 - Same as 881 July 17, 1882.



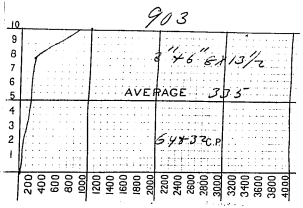
901 1st shift A & B lamps July 18, 1882



No 902 2nd shift A & B. Lamps July 18, 1882.

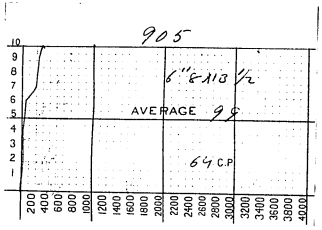


903 - 3rd Shift A & B lamps July 18, 1882.



904 - Lamps run off without drying or heating. July 17, 1882.

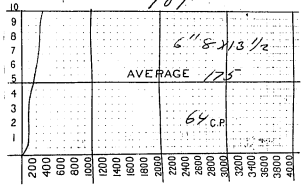
No 905 –



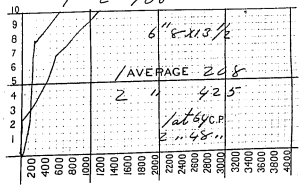
Carbons spotted – extra spots
July 17, 1882.

906 Lamps run off with blue worked off the clamps & sealed off without reference to condition of Columns of Hg in pumps.
July 20, 1882.

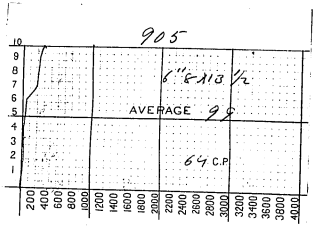
No 907 Regular lamps to be set aside for four weeks
July 17, 1882.



No 908 – 1st shift A Lamps July 19, 1882.



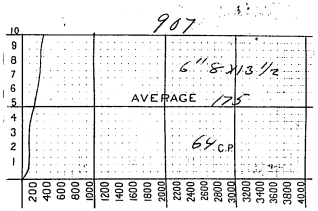
No 905 –



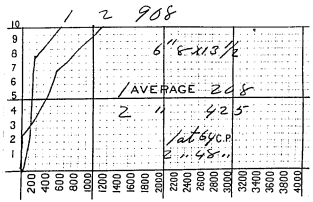
Carbons spotted – extra spots.
July 17, 1882.

906 Lamps run off with Elec worked off the clamps & sealed off without reference to condition of Column of Hg in pumps.
July 20, 1882.

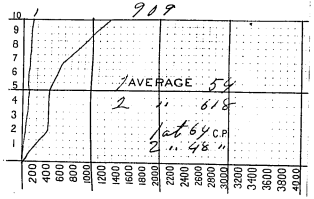
No 907 Regular Lamps to be set aside for four weeks
July 17, 1882.



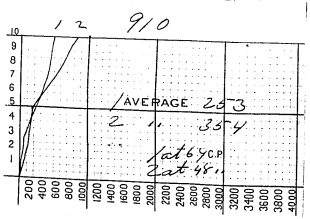
No 908 – 1st shift A Lamps July 19, 1882.



No 909 - 2nd shift A. Lamps July 19, 1882.

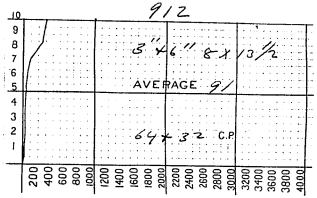


910 - 3rd shift A Lamps July 19, 1882

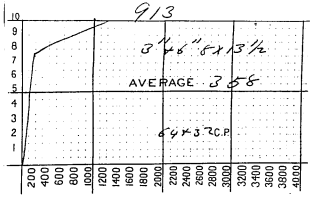


911 Lamps run off with dense blue in bulb & high sealing off with blue worked off Lamps destroyed C.O. Gunn. of Hg. in the pump July 20, 1882

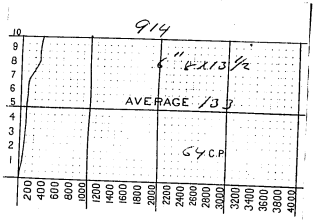
No 912 Day run A+B Lamps July 20, 1882.



913 Night run A+B Lamps July 20, 1882.



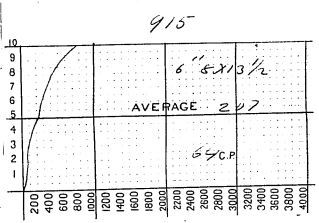
No 914 –



Lamps worked regularly not allowing tube to become fair or solid – then burning carbon high allowing tube to become solid with high burning & sealed off high.

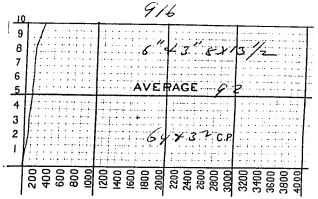
July 20, 1882.

No 915 –

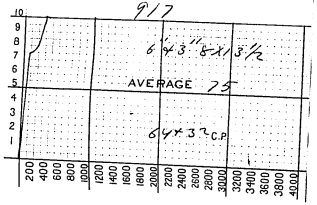


Lamps run quickly – blue worked out off Lamps – sealed off with middle of spool 82 box 2 ⇒ current July 20, 1882.

916 Day run 4 & 13 lamps July 21, 1882.

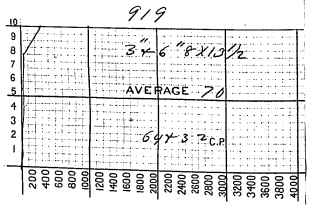


No 917 Night run A+B lamps July 21, 1882.

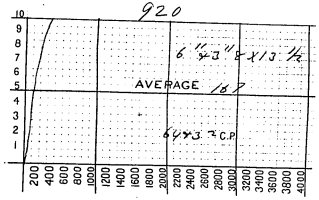


918 – Lawsons extra weighed fibres July 20, 1882.

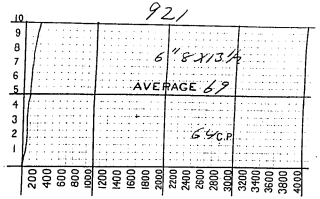
919 Day run A+B. July 22, 1882.



No 920 Night run A+B. lamps July 22, 1882.



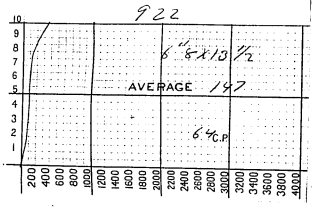
921-



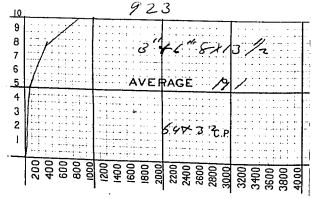
82.

Uptons order July 20, 1882.

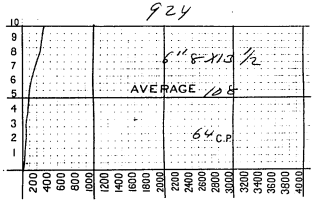
No. 922 Night run A Lamp. July 24, 1882.



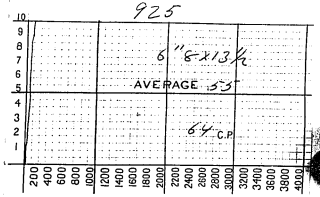
923 - Day run A. & B. Lamps. July 24, 1882.



No 924 Day run A. Lamps July 25, 1882.

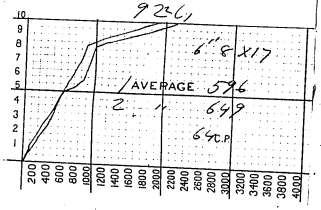


925 - Night run A. Lamps July 25, 1882.



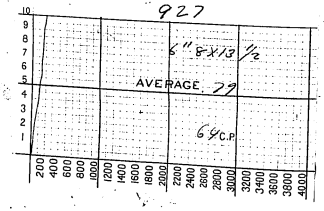
No 926

July 20, 1882.

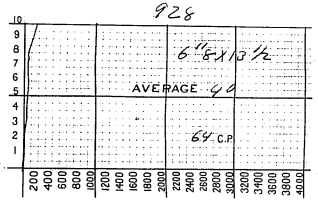


Edison's experiment - carbons placed in kerosene oil for 30 minutes.

927 Day run A Lamps July 26, 1882.

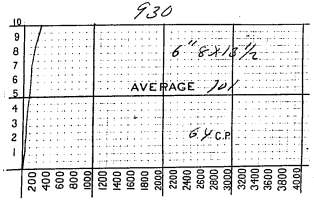


No 928 Nightrun A. Lamps July 26, 1882.



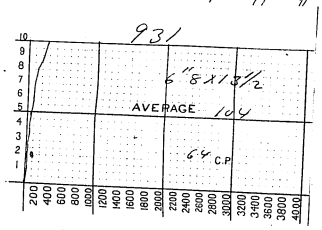
929 Weighed carbons July 27, 1882.

930 July 27, 1882.

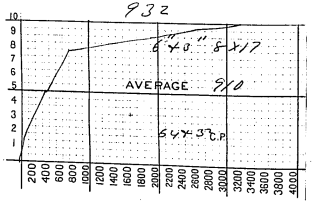


Increase in wasting bulbs.

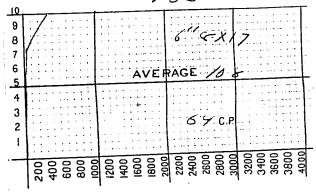
No 931 Day run A+B lamps July 27, 1882.



932 - Night run A. & B. lamps July 27, 1882.



No 933 —



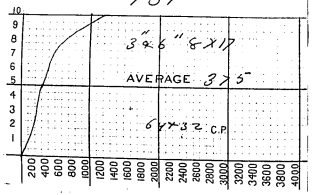
Carbons soaked in distilled water for 5 minutes & then immersed in boiling distilled water with 30 grms of salt to the qt.
July 27, 1882.

934 - Lamp bulbs soaked in hot water with 30 grains of salt to the qt.
July 27, 1882.

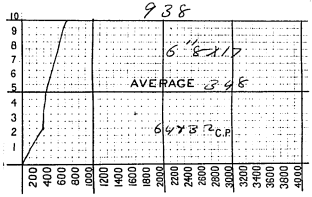
No 935 - Bulbs washed in hot water with 40 grains of salt to the qt. July 27, 1882.

936 Bulbs washed in hot water with 50 grains of water to the qt. July 27, 1882.

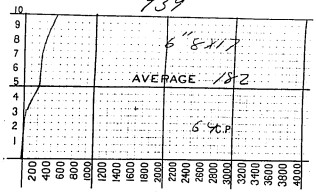
937 - Day run A. lamps July 28, 1882.



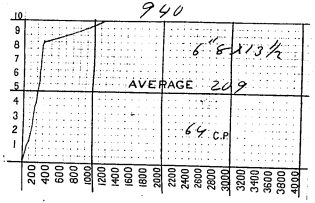
No 938 night run A & B lamps July 28, 1882.



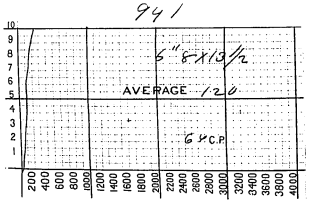
939 Day run A & B lamps July 29, 1882.



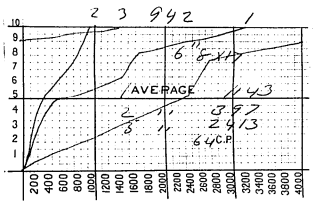
No 940 – Fibres dipped in collodion July 31, 1882



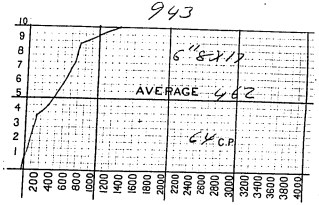
941 Carbons dipped in collodion July 31, 1882



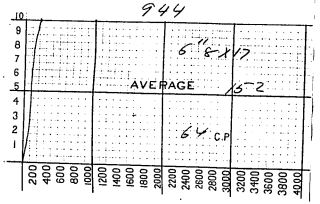
No 942. Carbons from carbon forms.



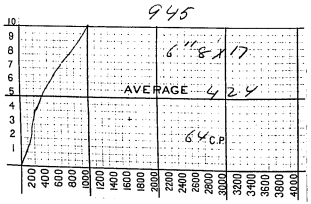
943 Day run A & B. Lamps July 31, 1882.



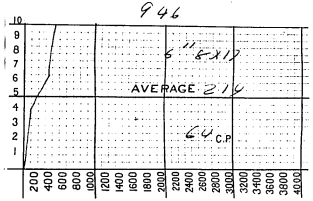
No 944 Night run A. Lamps July 31, 1882.



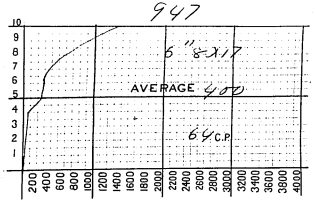
945 Day run A Lamps Aug 1, 1882.



No. 946 Night run A. Lamps Aug 1, 1882.

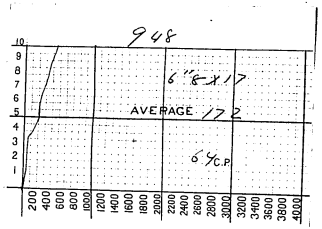


947 -



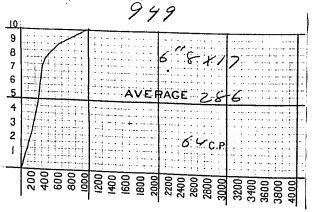
Fibres immersed in coal oil for 24 hours Aug 1, 1882.

No 948-

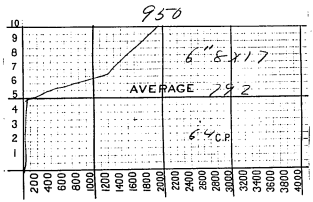


Fibres immersed in collodion & then boiled & allowed to remain 20 hrs. Aug 1, 1882.

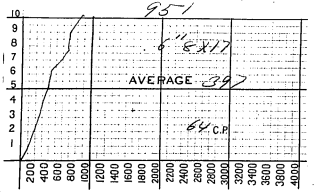
949 Day run A. Lamps Aug 2, 1882.



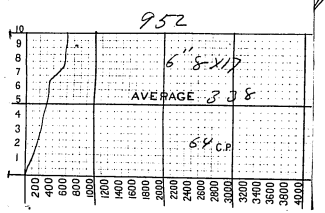
No 950 Night run 4 lamps Aug 2, 1882.



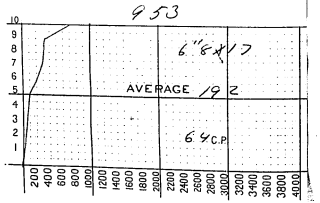
951 Day run A. Lamps Aug 2, 1882.



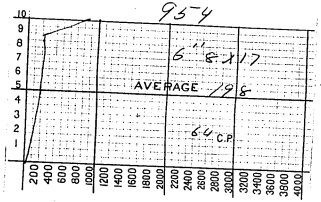
No 95-2 Night sun A. lamps Aug 3, 1882.



95-3 - Fibres carbonized 2 in a form in carbon forms Aug 3, 1882.

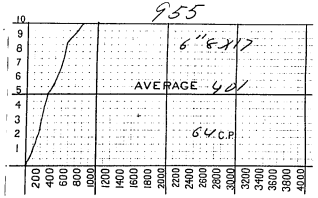


No 95-4 Aug 3, 1882.



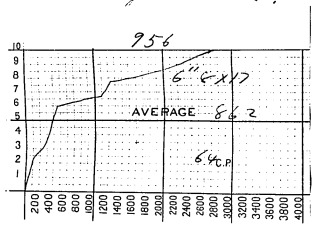
Fibres dipped in kerosene when hot

95-5 -



Carbons dipped in kerosene containing 15 grains terchloride Aug 3, 1882. Nickle forms.

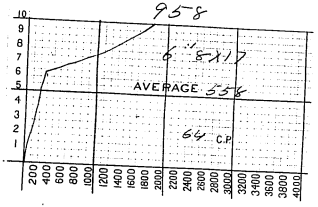
No 956 Carbonize with carbon forms double mould & pass chlorine through until about 100° & 4 hrs. then throw carbons in kerosene with terchloride carbon Aug 3, 1882.



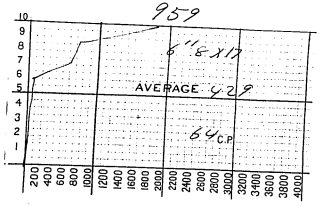
2153 hrs

957 Fibres soaked 24 hours in cold collodion Aug 3, 1882.

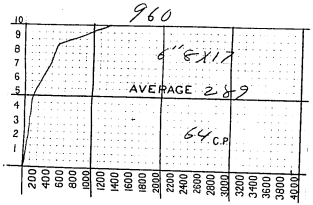
No 958 - Day run a Lamps Aug 4, 1882.



959 Night run a. Lamps Aug 4, 1882.

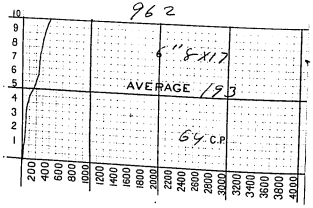


No 960 Day run A Lamps Aug 6, 1882.

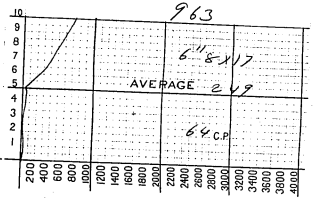


961 –

962 Day run A Lamps Aug 9, 1882.



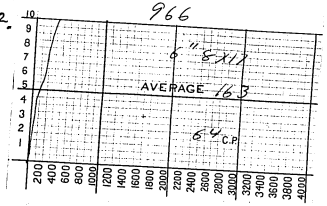
No 963 Night run A Lamps Aug 7, 1882.



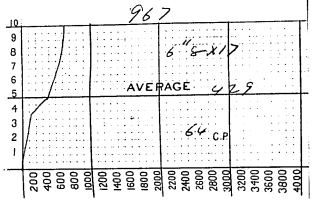
964 Fibres taken from carbon forms Aug 8, 1882.

965 Fibres taken from carbon forms forms immersed in kerosene oil & 15 grains of terchloride. Aug 8, 1882

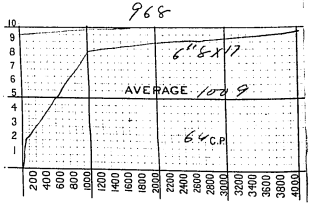
966 Day run A. Lamps Aug 8, 1882.



No 967 Night run A. Lamps Aug 8, 1882.



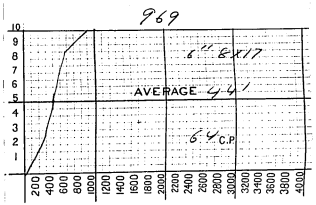
968 Carbons run through in carbon forms with double moulds & covers Aug 9, 1882.



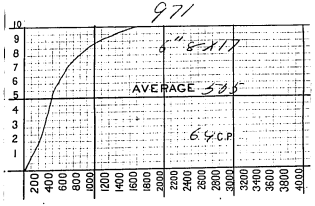
Aug 9, 1882.

No 969 Lamps with carbons immersed in Kerosene oil + Ca Cl2 bottle in side of stem & allowed to remain after exhausting with Ca Cl2 bottle full two months & then tested

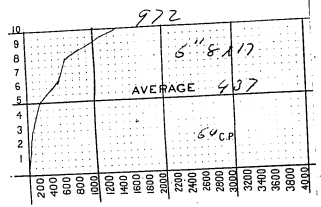
970 - Day run A. Lamps Aug 9, 1882.



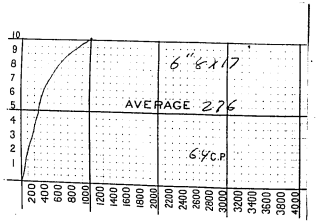
971 - Night run A. Lamps Aug 9, 1882.



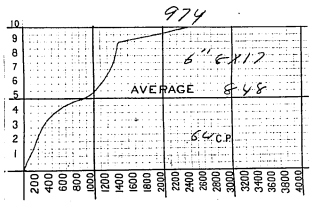
No 972 Day run A. Lamps Aug 10. 1882.



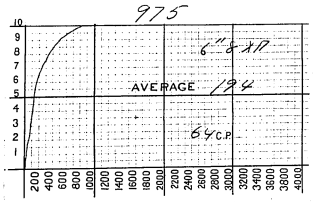
973 Night run A. Lamps Aug 10, 1882.



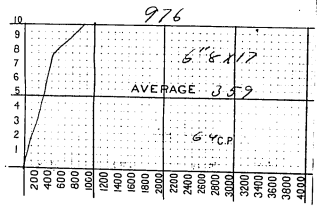
No 974 - Fibres carbonized in carbon forms whilst taking forms. Aug 9, 1882.



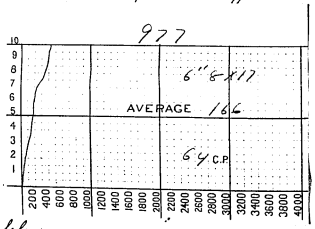
975 Carbons ~~taken~~ from nickel forms. forms immersed in kerosene oil for 3 hours. Aug 10, 1882.



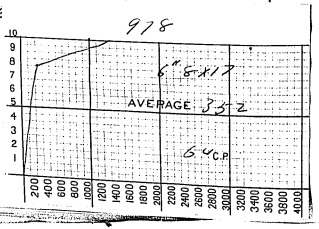
No 976 Day run A lamps Aug 11, 1882.



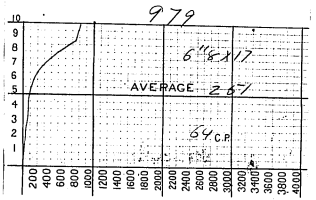
977 Night run A Lamps Aug 11, 1882.



948-Dense blue in bulbs Aug 10, 1882.

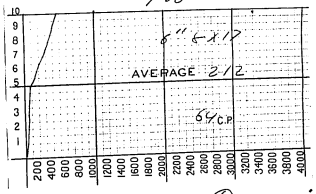


No 979- Aug 10, 1882



Carbons double cover nickel forms.

980 Day run A Lamps Aug 12, 1882.



981- Carbon forms double cover. Aug 10, 1882.